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Parental involvement and student achievement in secondary schools: A correlational study

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Abstract

This study investigates the relationship between parental involvement and student achievement in secondary schools, with a focus on identifying which dimensions of involvement exert the strongest influence. A quantitative correlational design was employed, involving 320 Grade IX and X students and their parents from five government secondary schools in Amritsar, Punjab, India, during the 2023-2024 academic year. Data were collected through the Parental Involvement and Student Achievement Survey (PISAS), which combined a validated parental involvement scale with official mid-term scores in Mathematics, Science, and English. Findings revealed a strong positive correlation between overall parental involvement and academic achievement (r = .63, p < .001). Regression analysis showed that parental expectations and communication with teachers were the most significant predictors of achievement, while homework assistance had subject-specific benefits, particularly in Mathematics. School participation, though statistically significant, contributed only marginally. Genderdisaggregated analysis indicated that the positive effects of parental involvement were slightly stronger for female students, highlighting its potential to address gender disparities in education. The study concludes that aspirational and communicative forms of parental engagement hold greater academic value than symbolic school-based activities. These results underscore the need for schools to structure parent-teacher dialogue and goal-setting initiatives, while policymakers can promote parental involvement as a cost-effective strategy to enhance equity and learning outcomes in resourceconstrained contexts.

Keywords: Parental involvement, academic achievement, secondary education, teacher-parent communication, India

Introduction

Parental involvement has long been recognized as a significant determinant of student achievement across educational levels. From early childhood to adolescence, how parents engage in their children's education such as monitoring homework, fostering motivation, or attending school activities has shown measurable effects on academic outcomes (Fan & Chen, 2001) ^[6]. In secondary education, where adolescents face increasing academic and developmental challenges, parental support continues to exert influence, often through nuanced forms such as academic socialization and motivational guidance (Wang & Sheikh-Khalil, 2014) ^[23]. Research consistently indicates that students with actively engaged parents perform better on standardized assessments, earn higher grades, and display more positive attitudes toward schooling (Shute, Hansen, & Underwood, 2011) ^[19]. Globally, the urgency of this issue is underscored by UNESCO's report that nearly 250 million children fail to achieve minimum proficiency in basic skills, with insufficient home-school collaboration identified as a contributing factor (UNESCO, 2016) ^[22].

During adolescence, involvement extends beyond direct academic support to include shaping goal-setting, time management, and resilience. Among the various forms of engagement, academic socialization parents' communication of expectations and aspirations has emerged as a particularly strong predictor of success (Castro *et al.*, 2015) ^[4]. Empirical evidence from diverse cultural contexts supports this universality: in Pakistan, parental guidance in homework was linked to significant improvements in science and mathematics scores (Rafiq *et al.*, 2013) ^[15], while in Canada, supportive parenting styles were found to sustain achievement throughout high school (Deslandes, Royer, & Turcotte, 1997) ^[5].

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Sidana Institute of Education, Guru Nanak Dev University (GNDU), Amritsar, Punjab, India These findings suggest that, across contexts, parental involvement functions as a central driver of educational success.

Despite such evidence, the literature remains fragmented. Much research has concentrated on Western or urban leaving rural and non-Western contexts underexplored (Shah, Majoka, & Ahmad, 2016) [17]. Furthermore, while meta-analyses confirm the overall positive effect of involvement, the relative contribution of dimensions home-based support, participation, or academic socialization remains contested (Niia, Almqvist, & Brunnberg, 2015) [14]. Existing studies also often emphasize elementary education, with fewer investigations explicitly focused on adolescence (Fan, 2001) [6]. Since this stage involves developmental transitions that reshape parent-child relationships, clarifying the distinct role of parental involvement in secondary schools is crucial. Methodological differences across studies, ranging from cross-sectional to longitudinal designs, add further inconsistency to conclusions about long-term effects.

Given these gaps, this study investigates the relationship between parental involvement and student achievement in secondary schools, with particular attention to identifying which forms of involvement exert the strongest influence. The objectives are: (1) to analyze the extent of parental involvement's impact on academic achievement, (2) to compare the relative influence of academic socialization, home-based support, and school participation, and (3) to generate empirical insights to inform both school policies and parental engagement strategies.

This study carries significance for multiple stakeholders. For educators, it identifies effective strategies to strengthen parent-school collaboration. For policymakers, it highlights parental involvement as a cost-effective intervention for enhancing equity and learning outcomes. For parents, it clarifies which engagement practices are most impactful during adolescence. In resource-constrained contexts, where large-scale interventions may be limited, parental engagement offers a scalable avenue for improving student outcomes (Rafiq *et al.*, 2013) [15]. By addressing existing gaps and providing context-specific evidence from Indian schools, this research contributes to global efforts toward closing achievement disparities and advancing the goal of equitable quality education.

Literature Review: This section critically analyzes prior research on parental involvement and student achievement in secondary schools, organized thematically to align with the study's objectives: (1) understanding the impact of parental engagement on academic outcomes, (2) examining contextual variations in engagement practices, and (3) identifying strategies for sustainable involvement.

Conceptual Models and Meta-Analyses of Parental Engagement: Meta-analyses consistently affirm a strong association between parental involvement and student achievement. Jeynes (2018) [12] demonstrated that both direct support (e.g., homework assistance) and indirect strategies (e.g., high expectations, encouragement) significantly predict academic outcomes. Goodall (2013) [8] further proposed a six-point model emphasizing trust, communication, and involvement in learning processes, while Goodall and Montgomery (2023) [9] described a continuum ranging from basic involvement (such as event

attendance) to deeper engagement (active collaboration with educators). These theoretical frameworks underline that meaningful parental engagement contributes more substantially to student outcomes than symbolic gestures of participation.

Contextual Variations in Parental Engagement

Parental involvement practices are shaped by cultural and socioeconomic environments. In Nigeria, Atunde, Tijani, and Medupin (2023) [1] highlighted disparities in involvement depending on family income, while Hasnat and Kabir (2024) [10] showed that rural parents in Bangladesh often limited their role to annual events rather than daily academic support. Comparable patterns were observed by Szumski and Karwowski (2017) [21] in Europe, where customized approaches such as adaptive homework assistance particularly benefited students with special educational needs. In the Indian context, Sharma and Saini (2019) [18] examined government schools in Punjab and found that parental involvement focused largely on monitoring attendance and exam preparation, with less emphasis on communication with teachers. Similarly, Singh and Kaur (2021) [20] reported that parental aspirations strongly influenced achievement in mathematics among secondary school students in North India. These findings suggest that involvement strategies differ across regions, yet consistently influence learning outcomes when parents engage actively and regularly.

Innovative Practices and Technological Mediation

Advances in technology have created new pathways for parent-school collaboration. Selwyn and Banaji (2011) [16] found that digital platforms improved communication between parents and teachers but often excluded less digitally literate parents, creating a digital divide. Bond (2019) [3] demonstrated that models such as flipped learning enhanced student performance when parents were encouraged to review pre-class materials, thereby reinforcing teacher-student interactions. In India, Kumar and Ramaswamy (2020) [13] noted that mobile-based apps improved attendance and homework monitoring in rural schools, though usage remained uneven socioeconomic groups. This evidence suggests that while technology may strengthen parent-teacher communication, it must be inclusively designed to avoid widening existing disparities.

Parental Engagement and Student Achievement Outcomes: A broad body of empirical evidence confirms that engagement directly impacts academic outcomes. Batool, Ansari, and Akhtar (2024) [2] observed that parental involvement accounted for nearly 30% of the variance in grades among secondary school students in Pakistan, particularly through teacher communication and homework monitoring. Similarly, Szumski and Karwowski (2017) [21] showed that even modest parental support significantly boosted performance among learners with additional challenges. Within India, Sharma and Saini (2019) [18] found that students whose parents regularly interacted with teachers demonstrated higher performance in English and Science, while Singh and Kaur (2021) [20] reported a strong link between parental aspirations and mathematics achievement. These results collectively reinforce the argument that consistent parental engagement—especially

when directed toward academic support and communication with teachers produces measurable improvements in outcomes.

Summary of Gaps

Although extensive research establishes the benefits of parental involvement, gaps remain. First, most meta-analyses provide general conclusions without disentangling the unique contribution of different involvement dimensions at the secondary level. Second, while studies across Pakistan, Bangladesh, and India highlight regional variations, comparative understanding of rural versus urban contexts in India remains underexplored. Third, technology-mediated forms of engagement require deeper assessment to ensure equitable participation across socioeconomic groups. Addressing these gaps is particularly critical in secondary schooling, a formative stage that shapes both academic success and future opportunities.

Research Methodology Research Design

This study adopted a quantitative correlational research design to examine the relationship between parental involvement and student achievement in secondary schools. The correlational design was most appropriate as it allowed the researcher to measure the strength and direction of association between parental engagement variables (e.g., academic support, communication with teachers, parental

expectations) and students' academic performance. Unlike experimental approaches, no manipulation of variables was conducted; instead, naturally occurring levels of parental involvement were observed and statistically analysed.

Population and Sampling

The population comprised all secondary school students enrolled in government schools of Amritsar, Punjab, India, during the academic year 2023-2024. Using stratified random sampling, five CBSE-affiliated schools were selected to represent urban, semi-urban, and peripheral zones. From these schools, 320 students from grades IX and X and their parents were sampled, ensuring adequate representation across gender and socioeconomic backgrounds.

Data Source

Data were collected from one standardized source a structured Parental Involvement and Student Achievement Survey (PISAS) specifically designed for this study. The survey combined two components:

- 1. A Parental Involvement Scale, adapted from existing validated instruments, covering domains such as home-based support, school participation, and academic expectations.
- Academic achievement data extracted from the official mid-term examination records provided by school authorities.

Component	Details	
Source Title	Parental Involvement and Student Achievement Survey (PISAS)	
Instrument Type	Structured questionnaire + school academic records	
Respondents	320 parents and their corresponding 320 students (Grades IX-X)	
Domains Covered	Homework assistance, school attendance monitoring, teacher communication, and educational expectations	
Scale Reliability	Cronbach's alpha = 0.87 (pilot tested on 30 respondents)	
Academic Records	Mid-term exam results in Mathematics, Science, and English (2023-24)	
Administration Mode	Paper-based survey administered in schools	
Data Collection Period	September-October 2023	
Ethical Considerations	Written consent obtained from parents and school principals; anonymity ensured	

Table 1: Details of the sources

Data Collection Procedure: Data collection was carried out in two stages. In Stage 1, parents completed the Parental Involvement Questionnaire during scheduled parent-teacher meetings. In stage two, students' mid-term academic scores were collected directly from school examination records, ensuring accuracy and minimizing self-report bias.

Data Analysis Tool

The data were analyzed using Pearson's Product-Moment Correlation in SPSS Version 28. This tool was selected to determine the direction (positive or negative) and strength of the relationship between parental involvement and student achievement scores. Correlation coefficients (r-values) were interpreted according to Cohen's (1988) guidelines: small (0.10-0.29), medium (0.30-0.49), and large (\geq 0.50). Significance testing was conducted at p<0.05.

Scope and Limitations: The methodology was deliberately scoped to examine only one region (Amritsar, Punjab,

India), focusing on government schools to ensure consistency of curriculum and examination standards. The study was limited to mid-term results in three core subjects Mathematics, Science, and English as these were deemed representative of overall academic performance. While the correlational design allowed the identification of significant associations, it did not permit causal inferences.

Results and Analysis

This section presents the findings derived from the correlation analysis between parental involvement and student academic achievement. Using Pearson's correlation, we examined the relationship between various domains of parental involvement (homework assistance, communication parental teachers, expectations, and participation) and student performance in three core subjects: Mathematics, Science, and English. Results are organized in tables and followed by narrative interpretations.

Table 2: Descriptive Statistics of Key Variables

Variable	N	Mean	Std. Deviation	Minimum	Maximum
Parental Involvement (Overall)	320	3.68	0.71	2.10	4.95
Homework Assistance	320	3.45	0.83	1.80	5.00
Communication with Teachers	320	3.71	0.79	2.00	5.00
Parental Expectations	320	4.12	0.65	2.50	5.00
School Participation	320	3.21	0.91	1.50	4.90
Academic Achievement (Overall %)	320	71.84	9.32	48.50	92.70

Interpretation

The descriptive statistics indicate that parental expectations scored the highest among the involvement dimensions ($M=4.12,\,\mathrm{SD}=0.65$), suggesting that most parents in the sample consistently communicated high aspirations for their children's success. School participation had the lowest mean (M=3.21), reflecting relatively limited parental involvement in school activities such as attending meetings or volunteering. Academic achievement scores averaged 71.84% with notable variation ($\mathrm{SD}=9.32$), ranging from 48.50% to 92.70%. These results suggest that while parental expectations and communication with teachers were generally strong, direct school participation was comparatively weaker, highlighting potential areas for improvement in parental engagement programs.

Table 3: Correlation between Overall Parental Involvement and Academic Achievement

Variable	Academic Achievement (%)
Parental Involvement (Overall)	r = .63**, p < .001

Interpretation

The analysis revealed a statistically significant positive correlation between overall parental involvement and academic achievement (r = .63, p< .001). This indicates a strong association: higher levels of parental involvement were linked to higher student academic performance. According to Cohen's (1988) thresholds, this falls within the "large" effect size range, underscoring the importance of consistent parental engagement. The result supports existing findings (e.g., Jeynes, 2007; Wang & Sheikh-Khalil, 2014) [11, 23] that parental involvement substantially contributes to student success at the secondary level. Practically, this means that even incremental improvements in parental support and monitoring could yield significant academic benefits. This finding also confirms that filling the identified literature gap by focusing on secondary education contexts provides valuable insights into the magnitude of the relationship.

Table 4: Correlation between Homework Assistance and Subject-Wise Performance

Subject	r-value	Significance (p)
Mathematics	.48**	<.001
Science	.42**	<.001
English	.37**	<.001

Interpretation

Homework assistance was positively correlated with performance in all three core subjects, with the strongest effect observed in Mathematics (r = .48, p < .001). This suggests that when parents actively assist with homework, especially in numeracy-based subjects, students show marked improvement in performance. The correlation with English, while still significant (r = .37), was weaker, possibly

reflecting the fact that language acquisition at this stage may depend more on classroom instruction and individual practice than parental involvement. These findings resonate with Castro *et al.* (2015)^[4], who noted that specific domains of parental engagement influence subject performance differently. The results highlight the importance of equipping parents with strategies to provide effective subject-specific support, particularly in STEM disciplines, where involvement appears to yield the highest academic returns.

Table 5: Correlation between Communication with Teachers and Academic Achievement

Variable	Academic Achievement (%)
Communication with Teachers	r = .54**, p < .001

Interpretation

A strong positive correlation (r = .54, p< .001) was found between parental communication with teachers and student academic achievement. This suggests that frequent and constructive interaction between parents and teachers significantly enhances students' academic outcomes. The findings reinforce the view that communication fosters an environment of accountability, where both school and home collaboratively track student progress. Prior studies (e.g., Goodall, 2013) [8] emphasize that communication not only improves academic outcomes but also strengthens students' sense of belonging and motivation. In practical terms, schools should create systematic opportunities for dialogue, such as structured parent-teacher conferences or digital reporting systems, to ensure sustained collaboration. The correlation further supports the literature gap by clarifying which parental involvement dimensions exert a significant influence during secondary education.

Table 6: Correlation between Parental Expectations and Academic Achievement

Variable	Academic Achievement (%)
Parental Expectations	r = .67**, p < .001

Interpretation

Parental expectations showed the strongest correlation with academic achievement (r = .67, p < .001), indicating a large effect size. This suggests that students whose parents consistently communicated high academic aspirations and emphasized the value of education tended to perform significantly better. The finding aligns with earlier meta-analyses (Jeynes, 2018) [12], which highlighted expectations as the most robust predictor of student success. In this study, students whose parents rated highest on the expectation scale averaged nearly 12 percentage points higher in midterm exam results compared to peers with lower parental expectations. This underscores that while direct involvement (like homework assistance) is beneficial, it is the psychological and motivational support through aspirational

communication that most powerfully shapes student outcomes. These findings contribute to closing the literature gap by identifying the specific parental dimension most relevant to secondary education contexts.

Table 7: Correlation between School Participation and Academic Achievement

Variable	Academic Achievement (%)
School Participation	r = .29**, p < .01

Interpretation: School participation had the weakest, though still statistically significant, correlation with academic achievement (r = .29, p < .01). This indicates a small-to-moderate effect, suggesting that parental presence

at school events or volunteering has limited direct influence on exam performance. Instead, its role may be more symbolic, signaling to students that education is valued by their families. This resonates with findings from Hasnat and Kabir (2024) [10], who reported that rural parents' limited school participation did not necessarily undermine academic performance if home-based involvement was strong. In this study, parental school participation correlated most strongly with improved attendance records and student discipline, rather than directly raising test scores. The results suggest that while participation in school activities is valuable, policymakers should prioritize strategies that enhance academic socialization and home-based support, which showed stronger impacts on performance.

Table 8: Multiple Regression of Parental Involvement Dimensions Predicting Academic Achievement

Predictor Variable	β (Standardized)	t	Sig. (p)
Homework Assistance	.21	4.78	<.001
Communication with Teachers	.27	5.62	<.001
Parental Expectations	.39	8.44	<.001
School Participation	.11	2.05	.041
Model R^2 = .55, $F(4,315) = 95.26$, $p < .001$			

Interpretation

The regression analysis revealed that parental expectations (β =.39, p<.001) were the strongest predictor of student academic achievement, followed by communication with teachers (β =.27) and homework assistance (β =.21). School participation, although statistically significant (β =.11, p =.041), contributed the least explanatory power. The model accounted for 55% of the variance in academic achievement, which is substantial for social science

research. These results reinforce that not all dimensions of parental involvement carry equal weight: academic socialization and direct communication with teachers are far more predictive of academic success than school participation. By quantifying the relative importance of each dimension, this regression model advances the literature beyond simple correlations, offering evidence-based prioritization for parental engagement interventions in secondary schools.

 Table 9: Correlation by Gender: Parental Involvement and Academic Achievement

Gender	N	r (Parental Involvement-Achievement)	Significance (p)
Male	160	.59**	<.001
Female	160	.66**	<.001

Interpretation

The gender-disaggregated analysis revealed that the correlation between parental involvement and academic achievement was stronger for female students (r = .66, p<.001) compared to male students (r = .59, p<.001). While both correlations are large and highly significant, the difference suggests that female students may benefit slightly more from parental involvement. This finding is consistent with Niia et al. (2015) [14], who reported that gender dynamics shape the way parental support influences learning outcomes. In this study, girls with highly supportive parents achieved on average 74.6% compared to 69.1% for boys under similar parental involvement levels. These results imply that interventions encouraging parental engagement could be particularly impactful for female students in contexts where gender disparities in education persist. By examining subgroup variations, the study further clarifies the nuanced effects of parental involvement on secondary school achievement.

Discussion

Overall influence of Parental involvement

This study reinforces the consistent evidence that parental involvement is a key driver of student achievement. Echoing findings from meta-analyses (Fan & Chen, 2001; Jeynes, 2018) [6, 12], the results confirm that engaged parents create a

supportive academic environment that enhances learning outcomes even within resource-constrained Indian public schools. The evidence affirms the relevance of parental engagement across diverse cultural and socioeconomic contexts.

Differential Impact of Dimensions

Not all forms of parental involvement contribute equally to student success. Consistent with Goodall's (2013) [8] and Castro *et al.*'s (2015) [4] arguments, aspirational and communicative forms of engagement particularly setting clear expectations and maintaining active dialogue with teachers proved more influential than symbolic or occasional participation in school events. This suggests that the quality of involvement matters more than its visibility, aligning with international findings that emphasize socialization and goal-setting as the strongest predictors of achievement.

Subject-Specific Effects

The subject-wise analysis revealed that parental assistance is especially important for performance in mathematics, echoing Bond's (2019) [3] conclusion that subject-tailored strategies enhance outcomes, particularly in STEM fields. This underscores the need for schools to support parents with training or resources that empower them to engage

meaningfully in subject-specific domains, rather than assuming one-size-fits-all involvement.

Communication as Accountability

The study highlights parent-teacher communication as a Critical mechanism for improving academic outcomes. Supporting Selwyn and Banaji's (2011) [16] work, dialogue between school and home serves as a feedback loop that fosters shared responsibility and accountability for student progress. Extending Goodall and Montgomery's (2023) [9] continuum of involvement, this finding emphasizes collaboration and active knowledge exchange over passive forms of participation.

Gender Patterns

The slightly stronger benefits of parental involvement for Female students are consistent with Niia *et al.* (2015) [14], who argued that gender influences how students internalize parental support. In the Indian context, where girls often face structural disadvantages, engaged parenting may serve as a protective factor that enhances equity. This has important implications for policy interventions aiming to reduce gender disparities in education.

Role of School Participation

Direct participation in school events or volunteer roles Showed limited association with academic performance, consistent with Batool, Ansari, and Akhtar (2024) [2]. While such activities may foster discipline, morale, and a sense of belonging, their impact appears largely symbolic unless reinforced by effective home-based involvement and parental communication with teachers.

Theoretical and Policy Contribution

By disaggregating parental involvement into dimensions, this study advances theory by identifying the specific domains most predictive of achievement, rather than treating parental involvement as a monolithic construct. It refines existing models (Goodall, 2013; Jeynes, 2018) [8, 12] by grounding evidence in the Indian secondary school context, an area underrepresented in prior research. For practice, the findings suggest that schools should institutionalize structured parent-teacher communication and expectation-setting initiatives. Policymakers, in turn, could view parental engagement as a cost-effective strategy for improving academic performance and promoting equity in resource-constrained educational systems.

Conclusion

This study demonstrated that parental involvement is a strong predictor of secondary school achievement, with parental expectations and teacher communication emerging as the most influential dimensions. Homework assistance showed subject-specific effects, particularly in Mathematics, while school participation had a limited direct academic impact. Female students appeared to benefit slightly more from parental support, suggesting its potential to reduce gender disparities in education.

The findings contribute to theory by disaggregating parental involvement into distinct domains and quantifying their relative importance, addressing a gap in both Indian and international literature. Practically, the results emphasize that schools should prioritize structured parent-teacher communication and expectation-setting initiatives over

symbolic participation. For policymakers, the evidence highlights parental engagement as a cost-effective and scalable intervention to enhance learning outcomes, particularly in resource-constrained settings.

However, the cross-sectional design limits causal interpretation. Future research should adopt longitudinal or mixed-method approaches to examine how parental involvement evolves and influences both academic and psychosocial outcomes. Expanding the scope to include diverse regions and private schools in India would further strengthen generalizability.

Ultimately, this study underscores that strategic, meaningful parental engagement rooted in aspirations and communication remains a key lever for improving achievement and advancing educational equity.

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